

CHARGE NUMBER: 1005  
PROJECT TITLE: Improved Semiworks Operations  
PROJECT LEADER: J. F. Sherwood  
PERIOD COVERED: August, 1981  
DATE OF REPORT: September 9, 1981

### I. Primary Processing

#### A. Export Filler Shipment

A test was completed, at the request of Manufacturing, to determine the cause of OV changes in bales of export filler during shipment. The results of tests, in which bales were placed in the jungle and desert rooms, showed significant filler OV changes were caused by small tears in the polyethylene bags covering the bales rather than moisture diffusion through the polyethylene. It was recommended that care be taken to avoid tearing the bags and that the bales be double bagged.

#### B. WS Extraction

A feasibility study was completed to investigate the possibility of extracting Northwind factory by-products with liquid CO<sub>2</sub> to recover the WS and allow the by-products to be used in sheet plants without danger of contaminating reconstituted tobacco with WS. Test results showed that in a single batch extraction, the CO<sub>2</sub> extracted approximately 90% of the WS from Northwind class tobacco without removing significant amounts of other tobacco components. A cost estimate for a potential production scale extraction process will be prepared to determine if it is economically feasible to extract by-products with liquid CO<sub>2</sub>.

#### C. Burley Equilibration Silo Depth

At the request of Manufacturing, an experiment was run to determine if cased DBC burley strip could be stored in an equilibration silo at a depth of 8 feet, instead of the normal 6 feet, without adversely affecting cut filler CV or sieve fractions. Increasing the silo depth to 8 feet would allow increased capacity without requiring additional floor space. In this test, the bottom two feet in the silos were simulated by placing cased burley strip exiting the P&S apron dryer in the Pilot Primary in saratoga and compressing the tobacco with the appropriate weights to obtain the pressures that would occur in the bottom two feet of silos with tobacco depths of 6 and 8 feet. After storage in the saratoga for 45 minutes (the silo hold time), the burley strip was processed through the remainder of the Pilot Primary. The results of tests on four lots of DBC burley strip showed no significant differences in cut filler CV or sieve fractions between the samples stored at simulated silo depths of 6 and 8 feet.

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## II. New Semiworks

Startup activities in the Primary Pilot Plant in the new Semiworks are continuing with tobacco being fed through the hogshead splitter and strip opening lines to check for proper equipment operation and for choke points.

Installation of the flooring in the Make/Pack area was completed and delivery of rebuilt equipment from the York facility should begin shortly.

## III. Cigarette Making and Packing

### Cigarette Firmness Specification

A program was initiated under the direction of Operations Services to ensure that all Philip Morris brands have an average 24 hour pack cigarette firmness of 30 mmx10. In this program, the as-is firmness levels of production cigarettes are being measured in the Materials Evaluation Facility after aging in packs 24 hours. Initial monitoring of three brands produced Aug. 11 through Sept. 9 in the MC was completed. The results showed Marlboro KS to have an average firmness of  $29.6 \pm 0.7$  mmx10 (95% confidence interval on the mean), Marlboro LS to have an average firmness of  $32.2 \pm 0.4$  mmx10, and Marlboro 100's S.P. to have an average firmness of  $28.7 \pm 0.6$  mmx10. As cigarette weight specifications are changed to adjust average firmness, further firmness tests will be made to confirm that the firmness specification is met

J F Sherwood  
J. F. Sherwood

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